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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/711,168	08/30/2004	Erik Breiland	BUR920020061US1	5167
30449	7590	07/05/2006	EXAMINER	
SCHMEISER, OLSEN & WATTS 22 CENTURY HILL DRIVE SUITE 302 LATHAM, NY 12110			FREJD, RUSSELL WARREN	
			ART UNIT	PAPER NUMBER
			2128	

DATE MAILED: 07/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/711,168	Applicant(s) BREILAND ET AL.	
	Examiner Russell Frejd	Art Unit 2128	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12-18 is/are allowed.
- 6) ☒ Claim(s) 1,2,4-11 and 19-30 is/are rejected.
- 7) ☒ Claim(s) 3 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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Examination of Application #10/711,168

1. Claims 1-30 of application 10/711,168, filed on 30-August-2004, are presented for examination.

Claim Objections under 37 CFR 1.75(d)(1)

2. Claim 19 is objected to under 37 CFR 1.75(d)(1), wherein the claim contains the following grammatical error. The phrase "dimensions substantially equal" [line 11] is understood to mean "dimensions *being* substantially equal".

Claim Rejections under 35 U.S.C. § 112, 2nd Paragraph

3. Claims 19, 24, 25, 28, 29 and 30 are rejected under 35 U.S.C. 112, second paragraph, as being vague and indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 19	line 9	"generally cells".
Claim 24	line 1	"said equivalent circuit subdivisions" lacks antecedent basis.
Claim 25	line 1	"said equivalent circuits" lacks antecedent basis.
Claim 28	line 3	"said equivalent circuit" lacks antecedent basis.
Claim 29	line 4	"said equivalent circuit" lacks antecedent basis.
Claim 30	line 2	"the equivalent circuit subdivisions" lacks antecedent basis.

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Claim Rejections under 35 U.S.C. § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter or any new and useful improvement thereof, may obtain a patent therefore, subject to the conditions and requirements of this title.

4.1 Claims 1, 4-11, and 19-30 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The invention claims (claim 1 preamble), “A *method of power supply noise and signal coupling analysis for creating a frequency-dependent electrical model related to a microelectronic package*”.

4.2 MPEP Section 2106(IV)(B)(2)(b)(ii) provides that a statutory computer process is determined not by how the computer performs the process, but by what the computer does to achieve a practical application with a useful, concrete and tangible result. For example, a computer process that simply calculates a mathematical algorithm that models noise is nonstatutory, while a claimed process for digitally filtering noise employing the mathematical algorithm is statutory. The long line of cases in this area that are referred to in MPEP Section 2106(IV)(B)(2)(b)(ii) exemplify this requirement, by utilizing in the claim language, terms such as controlling, executing, changing and removing. In view of the aforementioned requirement and the interim guidelines for 101 eligibility, the Examiner respectfully contends that the claim language of independent claims 1, 19 and 22 do not claim a practical application with a tangible result, that language claiming: in claim 1: **extracting** (emphasis added) geometries from said microelectronic package; **partitioning** said geometries into a plurality of cells, said cells having a characteristic size in each dimension of said geometries, wherein said characteristic size is derived from a fastest signal rise time of a signal adapted to propagate within said microelectronic package; **determining** a first equivalent circuit for each of said cells; and for

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each pair of adjacent cells consisting of a first cell and a second cell, **determining** a second equivalent circuit for conduction currents between the first cell and the second cell and for electromagnetic coupling between the first cell and the second cell.

4.3 For at least these reasons, the Examiner respectfully posits that the claims of the present invention do not meet the criteria for a statutory process. Accordingly, the claims are determined to be a program per se, consisting of software modules that implement the method of representing at least one criterion as a computer-storable expression, whereby the method does not manipulate appropriate subject matter, and thus cannot constitute a statutory process (MPEP Section 2106(IV)(B)(2)(c)).

Claim Rejections under 35 U.S.C. § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5.1 Claims 1, 2, and 4-11 are rejected under U.S.C. 102(b) as being anticipated by Buffet et al., hereinafter Buffet, USP 6,584,596.

5.2 Buffet discloses: in regard to claim 1, a method of power supply noise and signal coupling analysis for creating a frequency-dependent electrical model related to a microelectronic package [c. 1, lns. 28-39], said method comprising the steps of: extracting

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geometries from said microelectronic package [c. 6, Ins. 3-14]; partitioning [c. 1, ln. 67; c. 3, ln. 33] said geometries into a plurality of cells [c. 3, Ins. 44-55; c. 5, Ins. 3-9, see “islands”], said cells having a characteristic size in each dimension of said geometries [c. 6, Ins. 3-11], wherein said characteristic size is derived from a fastest signal rise time of a signal adapted to propagate within said microelectronic package [c. 5, Ins. 14-20]; determining a first equivalent circuit for each of said cells [c. 2, Ins. 4-5, “chip voltage island”]; and for each pair of adjacent cells consisting of a first cell and a second cell, determining a second equivalent circuit [c. 2, Ins. 7-8, “package voltage island”] for conduction currents between the first cell and the second cell and for electromagnetic coupling between the first cell and the second cell.

Claim 2: outputting a description of said first and second equivalent circuits configured for use in an electrical circuit simulator [c. 7, Ins. 16-17].

Claim 4: determining a first equivalent circuit includes the step of assigning a value of resistance, inductance and capacitance of each resistor, inductor, and capacitor, respectively, in said first equivalent circuit [c. 5, Ins. 21-29].

Claim 5: determining a second equivalent circuit comprises modeling at least one electrical interaction between said first cell and said second cell of said pair of adjacent cells, said at least one electrical interaction being selected from the group consisting of a conduction current interaction, an electric field interaction, a magnetic field interaction, and combinations thereof [c. 6, Ins. 15-25].

Claim 6: said first equivalent circuit of said cell includes at least one functional component located within said cell, said at least one functional component being selected from the group consisting of a signal via, a **power supply via** [c. 5, ln. 19, “power busses”], a signal wire, a

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conductive plane, and combinations thereof.

Claim 7: .said first equivalent circuit of said cell is configured to represent at least one transmission line model having at least one functional component within said cell, said at least one functional component being selected from the group consisting of a signal via, a **power supply via** [c. 5, ln. 19, "power busses"], a signal wire, a conductive plane, and combinations thereof.

Claim 8: said first equivalent circuit of said cell is configured to represent at least one inductive [c. 5, ln. 25] coupling model having at least one functional component within said cell, said at least one functional component being selected from the group consisting of a signal via, a **power supply via** [c. 5, ln. 19, "power busses"], a signal wire, a conductive plane, and combinations thereof.

Claim 9: said first equivalent circuit of said cell is configured to represent at least one capacitive [c. 5, ln. 25] coupling model having at least one functional component within said cell, said at least one functional component being selected from the group consisting of a signal via, a **power supply via** [c. 5, ln. 19, "power busses"], a signal wire, a conductive plane, and combinations thereof.

Claim 10: said first equivalent circuit of said cell is configured to represent at least one resistive [c. 5, ln. 24] model having at least one functional component within said cell, said at least one functional component being selected from the group consisting of a signal via, a **power supply via** [c. 5, ln. 19, "power busses"], a signal wire, a conductive plane, and combinations thereof.

Claim 11: determining a first equivalent circuit of said cell comprises modeling at least one

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electrical interaction within said cell, said at least one electrical interaction being selected from the group consisting of a conduction current interaction, an electric field interaction, a **magnetic field interaction** [c. 6, ln. 21], and combinations thereof.

Claim Objections

6. Claim 3 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Buffet does not specifically disclose width and length of the cell being less than 1/20 the size of the wavelength of the knee frequency of the signal.

Allowed Claims

7. Claims 12-30 are deemed allowable over the prior art of record at this time, pending resolution of any rejections noted above.

Response Guidelines

8. A shortened statutory period for response to this action is set to expire **3 (three) months and 0 (zero) days** from the date of this letter. Failure to respond within the period for response will cause the application to become abandoned (see MPEP 710.02, 710.02(b)).

8.1 Any response to the Examiner in regard to this non-final action should be

directed to: Russell Frejd, telephone number (571) 272-3779, Monday-Friday from 0530 to 1400 ET, or the examiner's supervisor, Kamini Shah, telephone number (571) 272-2279. Inquires of a general nature or relating to the status of this application should be directed to the TC2100 Group Receptionist (571) 272-2100.

mailed to: Commissioner of Patents and Trademarks

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P.O. Box 1450, Alexandria, VA 22313-1450

or faxed to: (571) 273-8300

Hand-delivered responses should be brought to the Customer Service Window, Randolph Building, 401 Dulany Street, Alexandria, VA, 22314.

Date: 26-June-2006

RUSSELL FREJD

**RUSSELL FREJD
PRIMARY EXAMINER**